

WHAT IS CLAIMED IS:

1. A camera comprising:

a first lens unit, formed of a plurality of lenses, on which a light beam is incident from a subject,

a reflective member for reflecting a light beam, which has come from the subject and has been transmitted through the first lens unit, in a direction substantially perpendicular to the optical axis of the first lens unit,

a first diaphragm member which is arranged on a surface of a lens of the first lens unit closest to the reflective member with the surface of the lens facing the reflective member, and which blocks unwanted rays of light other than the light beam that contributes to the forming of the image of the subject on an image formation surface,

a second lens unit, formed of a plurality of lenses, on which the light beam reflected from the reflective member is incident,

at least either one of a second diaphragm member or an unwanted ray-of-light reflection prevention member; wherein the second diaphragm member is arranged between the first lens unit and the second lens unit, and blocks unwanted rays of light that travel outside the outermost periphery at which the light beam forming the subject image traveling from the first lens unit to the reflective member intersects

10086196-070802

the light beam forming the subject image traveling from the reflective member to the second lens unit, and the unwanted ray-of-light reflection prevention member is arranged on the reflective member to prevent rays of light from being reflected from a region thereof other than the region thereof on which the light beam forming the subject image is incident, and

a third diaphragm member, arranged in the vicinity of a surface of the lens of the second lens unit closest to the reflective member with the surface of the lens facing the reflective member, for blocking unwanted rays of light other than the light beam contributing to the formation of the subject image.

2. A camera comprising:

a first lens unit, formed of a plurality of lenses, on which a light beam is incident from a subject,

a reflective member for reflecting a light beam, which has come from the subject and has been transmitted through the first lens unit, in a direction substantially perpendicular to the optical axis of the first lens unit,

a first diaphragm member which is arranged on a surface of a lens of the first lens unit closest to the reflective member with the surface of the lens facing the reflective member, and which blocks unwanted rays of light

10086196-070802

a second lens unit, formed of a plurality of lenses,
on which the light beam reflected from the reflective member
is incident,

a second diaphragm member which is arranged between the first lens unit and the second lens unit, and blocks unwanted rays of light that travel outside the outermost periphery at which the light beam forming the subject image traveling from the first lens unit to the reflective member intersects the light beam forming the subject image traveling from the reflective member to the second lens unit.

a third diaphragm member, arranged in the vicinity of a surface of the lens of the second lens unit closest to the reflective member with the surface of the lens facing the reflective member, for blocking unwanted rays of light other than the light beam contributing to the formation of the subject image, and

an unwanted ray-of-light reflection prevention member which is arranged on the reflective member to prevent rays of light from being reflected from a region thereof other than the region thereof on which the light beam forming the subject image is incident.

3. The camera according to claim 1, wherein the

reflective member is arranged on only an area where the light beam forming the subject image is incident.

4. The camera according to claim 1, wherein the diameter of the lens of the second lens unit closest to the reflective member is set to be larger than the inner diameter of the third diaphragm so that a portion of the light beam incident on the lens is prevented from being reflected from the outer periphery of the lens.

5. A camera comprising:

a first lens unit, formed of a plurality of lenses, on which a light beam is incident from a subject,

a reflective member for reflecting a light beam, which has come from the subject and has been transmitted through the first lens unit, in a direction substantially perpendicular to the optical axis of the first lens unit,

a first diaphragm member which is arranged on a surface of a lens of the first lens unit closest to the reflective member with the surface of the lens facing the reflective member, and which blocks unwanted rays of light other than the light beam that contributes to the forming of the image of the subject on an image-forming surface,

a second lens unit, formed of a plurality of lenses, on which the light beam reflected from the reflective member

10085195-070302

is incident, and

at least either one of a second diaphragm member or an unwanted ray-of-light reflection prevention member, wherein the second diaphragm member is arranged between the first lens unit and the second lens unit, and blocks unwanted rays of light that travel outside the outermost periphery at which the light beam forming the subject image traveling from the first lens unit to the reflective member intersects the light beam forming the subject image traveling from the reflective member to the second lens unit, and the unwanted ray-of-light reflection prevention member is arranged on the reflective member to prevent rays of light from being reflected from a region thereof other than the region thereof on which the light beam forming the subject image is incident.

6. A camera comprising:

a first lens unit, formed of a plurality of lenses, on which a light beam is incident from a subject,

a reflective member for reflecting a light beam, which has come from the subject and has been transmitted through the first lens unit, in a direction substantially perpendicular to the optical axis of the first lens unit,

a first diaphragm member which is arranged on a surface of a lens of the first lens unit closest to the

10086195-070802

reflective member with the surface of the lens facing the reflective member, and which blocks unwanted rays of light other than the light beam that contributes to the forming of the image of the subject on an image formation surface,

a second lens unit, formed of a plurality of lenses, on which the light beam reflected from the reflective member is incident,

a second diaphragm member which is arranged between the first lens unit and the second lens unit, and blocks unwanted rays of light that travel outside the outermost periphery at which the light beam forming the subject image traveling from the first lens unit to the reflective member intersects the light beam forming the subject image traveling from the reflective member to the second lens unit, and

an unwanted ray-of-light reflection prevention member which is arranged on the reflective member to prevent rays of light from being reflected from a region thereof other than the region thereof on which the light beam forming the subject image is incident.

7. A camera comprising:

a first lens unit, formed of a plurality of lenses, on which a light beam is incident from a subject,

a reflective member for reflecting a light beam, which

10086196.070802

has come from the subject and has been transmitted through the first lens unit, in a direction substantially perpendicular to the optical axis of the first lens unit,

a subject image capturing device arranged at a location where the light beam reflected from the reflective member forms the subject image, and mounted integrally with a frame member,

a focus adjusting mechanism which performs a focus adjustment operation for the subject image by varying the distance between the reflective member and the subject image capturing device, and

a subject light beam incident window, formed in a housing member, and having an opening dimension that permits the light beam from the subject incident on the first lens unit to be transmitted therethrough, wherein the window has the long edge thereof to permit the light beam incident on the first lens unit to be transmitted therethrough regardless of when the distance between the reflective member and the subject image capturing device, which is varied in response to the focus adjustment operation, is set to be shortest or when the distance between the reflective member and the subject image capturing device is set to be longest.

8. The camera according to claim 7, wherein the

10066196.070802

subject light beam incident window has an opening dimension in a direction substantially perpendicular to the direction of movement of the first lens unit in the focus adjustment operation thereof being substantially equal to the diameter of the incident light beam from the subject.

9. The camera according to claim 7, wherein the subject light beam incident window has an elongated shape having a long edge thereof in a direction aligned with the direction of movement of the first lens unit in the focus adjustment operation thereof.

10. A camera comprising:

a flat and elongated casing,

a battery holder for holding a battery, arranged near one end of the longitudinal casing, and having a portion thereof shortest in dimension aligned with the direction of depth of the flat shape of the casing,

a recording medium container with at least a portion thereof stacked on the battery holder in the direction of depth of the casing, and with a portion thereof shortest in dimension aligned with the direction of depth of the casing,

a photographing optical system, arranged near the other end of the longitudinal casing, for bending an incident light beam from a subject and forming the image on

10086196-070802

an image pickup surface,
an operation switch, and
a display,

wherein at least a portion of at least one of the operation switch and the display is stacked on the photographing optical system in the direction of depth of the casing, and the operation switch and the display are not stacked on each other on the projection plane of the casing when viewed from the subject.

11. The camera according to claim 10, wherein the photographing optical system is arranged so that no portion thereof is stacked on the battery holder and the recording medium container in the casing when viewed from the subject.

12. The camera according to claim 10, wherein the operation switch includes a plurality of switches.

13. The camera according to claim 10, wherein the operation switch is arranged near one end of the casing, and the display is arranged near the other end of the casing opposite from the operation switch.

14. The camera according to claim 10, wherein the display is arranged near one end of the casing, and the

10065196-070002

operation switch is arranged near the other end of the casing opposite from the display.

15. The camera according to claim 10, wherein one end of the casing is shaped into a grip of the camera.

16. The camera according to claim 10, wherein the recording medium container holds a recording medium in a detachable manner, and a cover member for loading and unloading the recording medium is arranged on one end portion of the casing.

17. A camera comprising:
a flat and elongated casing,
a battery holder for holding a battery, arranged near one end of the elongated casing, and having a portion thereof shortest in dimension aligned with the direction of depth of the flat shape of the casing,

a photographing optical system, arranged near the other end of the elongated casing, for bending an incident light beam from a subject and forming the image on an image pickup surface thereof,

an image pickup board which is arranged in parallel with an image pickup surface of an image pickup device and receives an output signal from the image pickup device,

2000709618001

wherein the image pickup surface of the image pickup device is arranged in the image pickup surface of the photographing optical system, and

a circuit board having an outer shape that is stacked on the battery holder in the direction of depth of the casing, but is not stacked on the photographing optical system in the direction of depth of the casing, and generally coextends with the plane of the casing when viewed from the subject.

18. The camera according to claim 17, the image pickup board is arranged near the other end of the casing.

19. The camera according to claim 17, further comprising a connector for connecting the image pickup board to the circuit board.

20. The camera according to claim 17, wherein two opposite sides of the image pickup board are respectively arranged close to the front side and the back side of the casing.

21. The camera according to claim 19, wherein the circuit board comprises a lip portion projecting in a location clear of the photographing optical system with the

10000196-070002

connector mounted on the lip portion.

22. The camera according to claim 19, wherein the circuit board comprises a pair of lip portions respectively extending on both sides of the photographing optical system with the connector mounted on one of the lip portions.

23. The camera according to claim 21, further comprising a second circuit board, and the circuit board with the connector mounted on one of the lip portions and with the connector to the second circuit board mounted on the other of the lip portions.

24. The camera according to claim 23, wherein the second circuit board is partly stacked on the optical system in the direction of depth of the casing.

25. A camera comprising:

a flat casing,

a battery holder for holding a battery, arranged near one end of the casing, and having a portion thereof shortest in dimension aligned with the direction of depth of the flat shape of the casing,

a photographing optical system, arranged near the other end of the casing, for bending an incident light beam

10006196-070002

from a subject and forming the image on an image pickup surface thereof,

a first circuit board having an outer shape that is stacked on the battery holder in the direction of depth of the casing, but is not stacked on the photographing optical system in the direction of depth, and substantially coextends with the projection plane of the casing when viewed from the subject, and

a second circuit board having a shape not stacked on the battery holder and the photographing optical system in the direction of depth of the casing.

26. A camera comprising:

a flat casing,

a battery holder for holding a battery, arranged near one end of the casing, and having a portion thereof shortest in dimension aligned with the direction of depth of the flat shape of the casing,

a photographing optical system, arranged near the other end of the casing, for bending an incident light beam from a subject and forming the image on an image pickup surface thereof,

an image pickup board which is arranged in parallel with an image pickup surface of an image pickup device and receives an output signal from the image pickup device,

10886196.070802

wherein the image pickup surface of the image pickup device is arranged in the image pickup surface of the photographing optical system,

a first circuit board having an outer shape that is stacked on the battery holder in the direction of depth of the casing, but is not stacked on the photographing optical system in the direction of depth, and substantially coextends with the projection plane of the casing when viewed from the subject, and

a second circuit board having a shape not stacked on the battery holder and the photographing optical system in the direction of depth of the casing.

27. The camera according to claim 26, further comprising a connector for connecting the image pickup board to the first circuit board.

28. The camera according to claim 26, wherein the image pickup board is arranged on the other end portion of the casing.

29. The camera according to claim 25, wherein a recording medium container is arranged on the first circuit board.

10066196.070802

30. The camera according to claim 25, wherein the second circuit board comprises a stroboscopic control unit and an input unit connected to the battery.

31. The camera according to claim 25, wherein two opposite sides of the second circuit board are respectively arranged close to two sides of the casing.

32. A camera comprising:
a flat casing,
a battery holder arranged inside the casing,
a circuit board arranged with at least a portion thereof stacked on the battery holder in the direction of depth of the casing, and
a flat electrical-double-layer capacitor stacked and arranged with at least a portion thereof stacked on both the battery holder and the circuit board.

33. A camera comprising:
a flat casing,
a battery holder arranged inside the casing,
a circuit board arranged with at least a portion thereof stacked on the battery holder in the direction of depth of the casing,
a recording medium container, mounted on the circuit

10086196.070802

board with at least a portion of the recording medium container stacked on the battery holder, for storing video data, and

an electrical-double-layer capacitor stacked and arranged with at least a portion thereof stacked on all of the battery holder, circuit board and the recording medium container.

34. The camera according to claim 33, wherein the projection area from the electrical-double-layer capacitor when viewed from the front of the casing is equal to or smaller than the area of the recording medium container.

35. The camera according to claim 32, wherein the circuit board is arranged between the battery holder and the electrical-double-layer capacitor in the direction of depth of the casing.

36. The camera according to claim 32, further comprising an image formation optical system, arranged inside the casing on one end portion thereof, for forming the image of a subject positioned in front of the casing, wherein the battery holder is arranged on the other end portion of the casing.

10086196-070802

37. The camera according to claim 36, wherein the image formation optical system has no portion thereof stacked on any of the battery holder, the circuit board, the recording medium container, and the electrical-double-layer capacitor in the direction of depth of the casing.

38. The camera according to claim 32, wherein the electrical-double-layer capacitor is arranged adjacent to an outer housing member of the casing.

39. The camera according to claim 32, wherein the electrical-double-layer capacitor is fixed to an outer housing of the casing.

40. The camera according to claim 38, wherein the casing comprises a grip portion projecting from the flat planar portion thereof, and the electrical-double-layer capacitor is arranged inside the grip portion.

41. An electronic camera comprising:

a camera body,

an optical axis bending type photographing optical system having a reflective surface which is arranged in the vicinity of a light incident area of the camera body and inclined with respect to the optical axis of an incident

10086196-070802

light beam so that the optical axis reflected from the reflective surface is aligned with the direction of width of the camera body, and

a stroboscopic capacitor arranged with a portion of an outer circumference thereof being adjacent to the back side of the reflective surface of the photographing optical system and with the length direction thereof aligned to be perpendicular to the bottom plane of the camera body.

42. The electronic camera according to claim 41, wherein the reflective surface is a reflective surface of a prism included in the axis bending type photographing optical system.

43. The electronic camera according to claim 41, wherein the reflective surface is a reflective surface of a reflective mirror included in the axis bending type photographing optical system.

44. The electronic camera according to claim 41, wherein the reflective surface is arranged to be substantially in the center of the width of the camera body.

45. The electronic camera according to claim 42, wherein the stroboscopic capacitor is long enough to

2007092618001

substantially coextend with the height of the camera body and is mounted on a circuit board which is arranged close to and in parallel with the bottom plane of the camera.

46. The electronic camera according to claim 41, wherein an optical finder is arranged above the photographing optical system and in the vicinity of the stroboscopic capacitor.

47. An electronic camera comprising:

a camera body,

a photographing optical system having a reflective surface thereof, for bending an optical axis, in the vicinity of a light incident area of the camera body, and arranged in the camera body so that the length direction thereof, aligned with the optical axis reflected from the reflective surface, is in parallel with the bottom plane of the camera,

an optical finder arranged above the photographing optical system with the length direction of the optical finder aligned to be in parallel with the length direction of the photographing optical system, and

a stroboscopic capacitor arranged below the photographing optical system with the length direction of the stroboscopic capacitor aligned to be in parallel with

10086196.070802

the length direction of the photographing optical system.

48. The electronic camera according to claim 47, wherein the light incident area of the photographing optical system is arranged substantially in the center of the width of the camera body.

49. The electronic camera according to claim 47, wherein the light incident area of the photographing optical system is arranged on one end portion of the width of the camera body.

50. The electronic camera according to claim 47, wherein the optical finder is arranged with the light incident area thereof positioned right above the light incident area of the photographing optical system, and a stroboscopic light emission unit is arranged in the vicinity of the optical finder and above an image pickup device positioned on the back end portion of the photographing optical system.

51. An electronic camera comprising:
a camera body,
a photographing optical system having a reflective surface thereof for bending an optical axis, in the vicinity

10086195-070802

of a light incident area of the camera body, with the length direction thereof aligned with the optical axis of the light beam reflected from the reflective surface, the photographing optical system arranged on the left-hand side with respect to the center when viewed from the front of the camera body in a posture with the length direction thereof in parallel with the bottom plane of the camera, and

a battery holder arranged below the photographing optical system.

52. An electronic camera comprising:

a casing,

a photographing optical system, arranged in the casing, for forming an image of a subject in front of the casing,

an image pickup device, integrally assembled with the photographing optical system, for picking up the subject image formed by the photographing optical system,

an image pickup board connected to the image pickup device, and

a first circuit board fixed to the casing with at least a portion thereof stacked on the image pickup board in the direction of depth of the casing,

wherein the image pickup board is mounted in the casing subsequent to the mounting of the photographing optical system and the first circuit board in the casing,

10086196-070802

and the image pickup board is fixed and connected to a terminal of the image pickup device.

53. The electronic camera according to claim 52, further comprising:

a connector arranged on the surface of the first circuit board, and

a connector arranged on the back side of the image pickup board,

wherein the first circuit board and the image pickup board are mounted with the connectors thereof connected to each other on the facing planes thereof.

54. The electronic camera according to claim 52, the first circuit board is one of a power board for performing power supply control and stroboscopic control or a main board for performing signal processing and sequential control.

55. An electronic camera comprising:

a casing,

a photographing optical system, arranged in the casing, for capturing an image of a subject in front of the casing,

an image pickup device, integrally assembled with the photographing optical system, for picking up the subject

10086196-070802

image formed by the photographing optical system,

an image pickup board connected to the image pickup device,

a first circuit board fixed to the casing with at least a portion thereof stacked on the image pickup board in the direction of depth of the casing, and

a second circuit board having a connector on the back side thereof, and mounted with at least a portion thereof stacked on both the image pickup board and the first circuit board in the direction of depth of the casing, and with a connector arranged on the first circuit board connected to the connector arranged on the back side of the second circuit board,

wherein the image pickup board is fixed in the casing subsequent to the mounting of the photographing optical system and the first circuit board in the casing, and the image pickup board is fixed to and connected to a terminal of the image pickup device.

56. An electronic camera comprising:

a casing,

a photographing optical system, arranged inside the casing, for capturing an image of a subject in front of the casing,

an image pickup device, integrally assembled with the

10066196.070802

photographing optical system, for picking up the subject image formed by the photographing optical system,

an image pickup board connected to the image pickup device,

a first circuit board fixed to the casing with at least a portion thereof stacked on the image pickup board in the direction of depth of the casing, and

a second circuit board fixed to the casing and mounted with at least a portion thereof stacked on the image pickup board and the first circuit board in the direction of depth of the casing,

wherein the image pickup board is fixed in the casing subsequent to the mounting of the photographing optical system, the first circuit board, and the second circuit board in the casing, and the image pickup board is fixed to and connected to a terminal of the image pickup device.

57. The electronic camera according to claim 56, further comprising:

a connector arranged on the front side of the first circuit board, and

a connector arranged on the back side of the second circuit board,

wherein the first circuit board and the second circuit board are mounted with the connectors thereof connected to

10086196.070002

each other on the facing planes thereof.

58. The electronic camera according to claim 55,
further comprising:

a connector arranged on the front side of the second
circuit board, and

a connector arranged on the back side of the image
pickup board,

wherein the second circuit board and the image pickup
board are mounted with the connectors thereof connected to
each other on the facing planes thereof.

59. The electronic camera according to claim 55,
wherein the first circuit board is a power board for
performing power supply control and stroboscopic control,
and the second circuit board is a main board for performing
signal processing and sequential control.

60. The electronic camera according to claim 55,
wherein the first circuit board a main board for performing
signal processing and sequential control and the second
circuit board is a power board for performing power supply
control and stroboscopic control.

61. The electronic camera according to claim 52,

10066196-070802

wherein the image pickup board is assembled to and fixed to the photographing optical system subsequent to the mounting of the photographing optical system and the first circuit board into the casing, and then the image pickup board is fixed to and connected to a terminal of the image pickup device.

62. The electronic camera according to claim 52, wherein the image pickup board has a hole through which the terminal of the image pickup device is inserted and connected, and the hole is larger than the outer dimension of the terminal of the image pickup device.

63. The electronic camera according to claim 52, wherein the casing is flat.

10066196-070602